

## WHAT IS CLAIMED IS :

Sub B1 1. A screen, comprising a support with focusing elements, an opaque layer with apertures to allow light focused by said focusing elements to pass, said apertures making up less than 10% of the surface area of the opaque layer.

10 2. The screen according to claim 1, wherein the opaque layer is close to the focal points of the focusing elements.

Sub B1 15 3. The screen according to claim 1, wherein the apertures are not dot-shaped.

4. The screen according to claim 1, wherein the apertures have a dimension comprised between 2 micrometers and 200 micrometers.

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Sub B1 5. The screen according to claim 1, wherein the apertures make up less than 5% of the total surface.

25 6. The screen according to claim 1, wherein it has a contrast greater than 250, and preferably greater than 500.

30 7. The screen according to claim 1, wherein the focusing elements have a dimension comprised between 20 micrometers and one millimetre.

8. The screen according to claim 1, wherein its transmissivity is greater than 70%.

9. The screen according to claim 1, wherein the square  $(\phi_{\text{holes}}/\phi_{\text{focusing}})^2$  of the ratio between aperture dimension  $\phi_{\text{holes}}$  and focusing element dimension  $\phi_{\text{focusing}}$  is less than or equal to 10%, preferably less than or equal to 5%.

10. The screen according to claim 1, wherein the focusing elements comprise lenticular elements, the apertures are in the form of a line and the ratio between line width and a distance between two adjacent lines is less than or equal to 10%, preferably less than or equal to 5%.

11. The screen according to claim 1, wherein the filling ratio by focusing elements is greater than or equal to 90%.

12. The screen according to claim 1, wherein the focusing elements comprise microballs.

13. The screen according to claim 12, wherein it has a transmissivity greater than or equal to 80%, preferably greater than or equal to 85%.

14. The screen according to claim 1, wherein the focusing elements comprise microlenses or lenticular elements.

15. The screen according to claim 14, wherein it has a transmissivity greater than or equal to 90%, preferably greater than or equal to 95%.

A1 > 16. The screen according to one of claims 1-15, wherein it further comprises a diffuser adjacent to the

opaque layer, preferably a diffuser controlling directivity.

17. The screen according to claim 16, with a spacer  
5 layer between the support and the diffuser, preferably of a thickness between a few microns and several tens of microns.

18. The screen of claim 17, wherein the diffuser has  
10 an active surface directed towards the spacer layer.

19. The screen of claim 16, characterised by a transparent plate adjacent to the diffuser and bonded thereto.  
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20. The screen according to claim 16, wherein the diffuser is a holographic diffuser.

*nd >* 21. The screen according to claim 1 or claim 16,  
20 wherein it comprises a reflector adjacent to the opaque layer.

22. The screen according to claim 21, wherein the reflector is a reflector controlling directivity.

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*Sub 34* 23. A method for producing a screen, comprising the steps of:

- providing a support having a plurality of focusing elements, and a layered material adjacent to the  
30 points of focus of said focusing elements;
- irradiating said material through said focusing elements;
- forming, using the irradiated material, an opaque layer having apertures making up less than 10% of the  
35 surface area of said opaque layer.

24. The method according to claim 23, wherein said focusing elements comprise microlenses, lenticular elements or microballs.

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25. The method according to claim 23, wherein the focusing elements comprise microballs and the method further comprises the formation of a second opaque layer between the microballs, prior to the irradiation step.

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26. The method according to claim 23, wherein the material is an opaque positive-going photosensitive resin, and the said formation step comprises:

- the development of said resin.

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27. The method according to claim 23, wherein the material is a material that can be destroyed by irradiation and said formation step is performed by destruction of material at the same time as said irradiation step.

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28. The method according to claim 23, wherein the material is a positive photographic material and wherein the formation step comprises:

25 - the development of said photographic material.

29. The method according to claim 23, wherein the material is a material able to be decolored by irradiation and wherein the formation step is performed by material decoloration at the same time as the said irradiation step.

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30. The method according to claim 23, wherein it further comprises the steps of:

- forming, on said support or said opaque layer, a spacer layer with a thickness of from a few microns up to several tens of microns;

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Sub 5*  
- forming apertures in said spacer layer, in correspondence with the focal points of said focusing elements;

- bonding a diffuser onto said spacer layer, an active face of said diffuser being directed towards said spacer layer.

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31. The method according to claim 30, wherein it further comprises a step in which a transparent plate is applied to said diffuser by bonding.

15 32. A screen having a contrast greater than 250, preferably greater than 500.

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